IN THE CLAIMS:

Amend claims 1-47 and add new claims 48-52 as shown in the following listing of claims, which replaces all previous listings and versions of claims.

1. (currently amended) A method of manufacturing a light-propagating probe for a near-field microscope, ~~made from a light-propagating body having a transparent opening for passing light at an end section and a metal film coat at a tip section other than at the transparent opening, the transparent opening being formed so as to give a pointed tip section, having a hook-shape close to the tip section and functioning as a cantilever having resilience capable of being displaced in a direction perpendicular to a sample surface, and having a reflecting surface for carrying out optical position detection of the tip section at an opposite side to the tip section with respect to the hook-shaped section, comprising:~~ the light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable

of being displaced in a direction perpendicular to a sample surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating ~~probe~~ body;

a step of forming the light-propagating ~~probe~~ body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening ~~section~~;

a step of protecting the transparent opening ~~section~~ with a resist material;

a ~~step for~~ metal film coating ~~a~~ step for coating the reflecting surface and the spring operating part ~~to the rear from the hook-shaped section~~; and

a step of removing the resist material.

2. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; wherein the ~~as disclosed in claim 1, wherein principal~~ steps are carried out in the order of:

a step of sharpening the light-propagating ~~probe~~ body;

a step of forming the light-propagating ~~probe~~ body in a ~~hook-shaped~~ hook-shape;

a metal film coating step for forming the transparent opening ~~section~~;

a step of protecting the transparent opening ~~section~~ with a resist material;

a step of forming the reflecting surface;

a ~~step for~~ metal film coating ~~a~~ step for coating the reflecting surface and the spring operating part ~~to the rear from the hook-shaped section~~; and

a step of removing the resist material.

3. (currently amended, withdrawn) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; wherein the steps ~~as disclosed in claim 1, wherein principal processes~~ are executed in the order of:

a step of sharpening the light-propagating ~~probe~~ body;

a step of forming the light-propagating ~~probe~~ body into a hook-shape;

a metal film coating step for forming the transparent opening ~~section~~;

a step of forming the reflecting surface;

a step of protecting the transparent opening ~~section~~ with a resist material;

a ~~step for~~ metal film coating ~~a~~ step for coating the reflecting surface and the spring operating part ~~rearwards from the hook-shaped section~~; and

a step of removing the resist material.

4. (currently amended, withdrawn) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; wherein the steps ~~as disclosed in claim 1, wherein principal processes~~ are executed in the order of:

a step of sharpening the light-propagating ~~probe~~ body;

a step of forming the light-propagating ~~probe~~ body into a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening ~~section~~;

a step of protecting the transparent opening ~~section~~ with a resist material;

a ~~step for~~ metal film coating ~~a~~ step for coating the reflecting surface and the spring operating part ~~rearwards from the hook-shaped section~~; and

a step of removing the resist material.

5. (currently amended) ~~The method of manufacturing a light-propagating probe for a near-field microscope as disclosed in claim 1,~~ A method of manufacturing a light-propagating probe for a near-field microscope, the light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable of being displaced in a direction perpendicular to a sample surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating body;

a step of forming the light-propagating body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening;

a step of protecting the transparent opening with a resist material;

a metal film coating step for coating the spring operating part; and

a step of removing the resist material,

wherein the step of sharpening the light-propagating ~~probe~~ body includes ~~a procedure for~~ applying a tension to the light-propagating ~~probe~~ body using a pair of spring mechanisms, irradiating carbon dioxide gas laser light by focusing with a lens, and, after locally heating the light-propagating ~~probe~~ body to cause tension fractures, reshaping the tip section using wet chemical etching.

6. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5 ~~as disclosed in claim 5,~~ wherein the pair of spring mechanisms are independently adjustable spring mechanisms, and further comprising ~~a procedure for~~ independently adjusting respective spring constants or initial tension of the spring mechanisms.

7. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5; ~~as disclosed in claim 5,~~ wherein the lens for focusing the carbon dioxide gas laser light is a cylindrical lens, and further including ~~a procedure for~~ focusing the carbon dioxide gas laser light in a direction where a line focal point crosses the light-propagating body,

and adjusting the position of the light-propagating body to the focal point or in front of or behind the focal point.

8. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5; ~~as disclosed in claim 5,~~ wherein the lens for focusing the carbon dioxide gas laser light is a spherical lens, and further including ~~a procedure for~~ focusing the carbon dioxide gas laser light, and adjusting the position of the light-propagating body to the focal point ~~of~~ or in front of or behind the focal point.

9. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5; ~~as disclosed in claim 5,~~ further including ~~a procedure for~~, after the carbon dioxide gas laser light has been irradiated at a comparatively small output such that the light-propagating body displays slight stretching until the light-propagating body stretches a specified amount, increasing the output to cause fracture.

10. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 9; ~~as disclosed in claim 9,~~ wherein, ~~in the procedure for~~ during increasing the output to cause fracture, the output of the carbon dioxide gas laser is increased at a fixed rate.

11. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5; ~~as disclosed in claim 5,~~ wherein the step of irradiating the carbon dioxide gas laser light to cause tensile fracture of the light-propagating body is simultaneously observed using a camera, and confirms an optical axis and monitors stretching state of the light-propagating body.

12. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5; ~~as disclosed in claim 5,~~ wherein the wet chemical etching includes a step of immersing the light-propagating body that has been subjected to tensile fracture in an etching fluid mainly comprising hydrofluoric acid to further sharpen the tip section.

13. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5; ~~as disclosed in claim 5,~~ wherein the wet chemical etching includes a step of immersing the light-propagating body that has been subjected to tensile fracture in an etching fluid that comprises a first solution layer mainly comprising hydrofluoric acid, and a second solution layer having a lower specific gravity than the first

solution layer, and not reacting or mixing with the first solution layer, to further sharpen the tip section.

14. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 12; ~~as disclosed in claim 12,~~ wherein the etching solution is temperature controlled to a fixed temperature.

15. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 13; ~~as disclosed in claim 13,~~ wherein the wet chemical etching includes a step of washing the light-propagating body using an organic solvent that dissolves the material constituting the second solution layer, and is water soluble.

16. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the step of sharpening the light-propagating body includes ~~a procedure of~~ immersing the light-propagating body in an etching fluid that comprises a first solution layer mainly comprising hydrofluoric acid, and a second solution layer having a lower specific gravity than the first solution layer, and not reacting or mixing with the first solution layer.

17. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 16; ~~as disclosed in claim 16,~~ wherein the etching fluid comprising a first solution layer and a second solution layer, and the light-propagating body, are arranged on a vibration isolation table, and the etching solution is temperature-controlled to a fixed temperature.

18. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 16; wherein the step ~~as disclosed in claim 16, wherein a process~~ of sharpening the light-propagating body includes a step of washing the light-propagating body using an organic solvent that dissolves the material constituting the second solution layer, and is water soluble.

19. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the step of sharpening the light-propagating body includes a step of testing for presence or absence of cylindrical cavity defects ~~within~~ in at least a part of the light-propagating body that is to be sharpened.

20. (currently amended) ~~The method of manufacturing a light-propagating probe for a near-field microscope as disclosed in claim 19, wherein the testing step~~ A method of manufacturing a light-propagating probe for a near-field microscope, the light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable of being displaced in a direction perpendicular to a sample surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating body;

a step of forming the light-propagating body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening;

a step of protecting the transparent opening with a resist material;

a metal film coating step for coating the spring operating part;

a step of removing the resist material; and

a step of testing for presence or absence of cavity defects ~~includes a procedure for~~ by arranging the light-propagating body between two light transparent glass plates, ~~filing~~ filling the space between the two glass plates with a transparent fluid medium having the same refractive index as the refractive index of the light-propagating body, and then observing the light-propagating body using an optical microscope.

21. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 20; ~~as disclosed in claim 20,~~ wherein the observation of the light-propagating body using the optical microscope in the step of testing for the cavity defects is carried out using dark field observation.

22. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the step ~~for making~~ of forming the light-propagating body in a hook shape is ~~a step of~~ carried out by irradiating carbon dioxide gas laser light to a desired position close to ~~a~~ the tip section of the sharpened light-propagating body.

23. (currently amended) ~~The method of manufacturing a light-propagating probe for a near-field microscope as disclosed in claim 22,~~ A method of manufacturing a light-propagating probe for a near-field microscope, the light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable of being displaced in a direction perpendicular to a sample surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating body;

a step of forming the light-propagating body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening;

a step of protecting the transparent opening with a resist material;

a metal film coating step for coating the spring operating part; and

a step of removing the resist material,

wherein the step of forming ~~this~~ the light-propagating body in a hook shape is ~~a step of~~ carried out by irradiating carbon dioxide gas laser light to a desired position close to the tip section of the sharpened light-propagating body and determining the bend angle of the hook shape through simultaneous observation using a camera, to control irradiation of the carbon dioxide gas laser light.

24. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the step of forming the reflecting surface ~~has a step of sharpening the light-propagating body, a step of forming the light-propagating body in a hook shape, and a step of~~ comprises mechanically polishing the hook-shaped section of the light-propagating body sharpened and formed in a hook shape ~~that is opposite to the tip section~~ by pressing the hook-shaped section against a rotating polishing plate~~, the pressing being carried out~~ utilizing the resilience of the light-propagating body itself.

25. (currently amended) ~~The method of manufacturing a light-propagating probe for a near-field microscope as~~

~~disclosed in claim 24, wherein~~ A method of manufacturing a light-propagating probe for a near-field microscope, the light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable of being displaced in a direction perpendicular to a sample surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating body;

a step of forming the light-propagating body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening;

a step of protecting the transparent opening with a resist material;

a metal film coating step for coating the spring operating part; and

a step of removing the resist material,

wherein the step of forming the reflecting surface comprises mechanically polishing the hook-shaped section of the light-propagating body sharpened and formed in a hook shape by pressing the hook-shaped section against a rotating polishing plate utilizing the resilience of the light-propagating body itself; and the step of mechanically polishing the light-propagating body ~~contains a procedure for~~ is carried out by causing the light-propagating body to project a specified length and fixing same to a polishing stage at a first angle with respect to a surface of the polishing plate, bringing the polishing stage and the polishing plate relatively close to each other, causing a part of the light-propagating body to be polished into contact with the polishing plate, bringing the polishing stage and the polishing plate closer together relatively, and holding the part of the light-propagating body to be polished at a second angle with respect to the surface of the polishing plate.

26. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 25; ~~as disclosed in claim 25,~~ wherein the specified length is in the range 5 mm to 50 mm, the first angle is in a range of 2 degrees to 60 degrees, and the second angle is o degrees or more, and less than the first angle.

27. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5; ~~as disclosed in claim 1,~~ wherein the wet chemical etching is carried out after tension fracture of the light-propagating body by irradiation of carbon dioxide gas laser light, before the step of making the light-propagating body hook-shaped.

28. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 5; ~~as disclosed in claim 1,~~ wherein the wet chemical etching is carried out after tension fracture of the light-propagating body by irradiation of carbon dioxide gas laser light, and the step of making the light-propagating body hook-shaped.

29. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the metal film coating step for forming the transparent opening is a vacuum deposition step using a rotating deposition jig to carry out deposition while rotating the light-propagating body, the rotating deposition jig having a structure where the light-propagating body is held so that the jig rotational axis becomes the same as or parallel to the

center axis of the tip section of the light-propagating body that has been sharpened and formed into a hook shape.

30. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the metal film coating step for forming the transparent opening is a step of depositing the metal film coating to a desired film thickness in at least two stages, including a procedure of carrying out deposition a first time, opening a vacuum chamber to the atmosphere, and carrying out deposition a second time.

31. (currently amended) ~~The method of manufacturing a light-propagating probe for a near-field microscope as disclosed in claim 1,~~ A method of manufacturing a light-propagating probe for a near-field microscope, the light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable of being displaced in a direction perpendicular to a sample

surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating body;

a step of forming the light-propagating body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening;

a step of protecting the transparent opening with a resist material;

a metal film coating step for coating the spring operating part; and

a step of removing the resist material,

wherein the metal film coating step for forming the transparent opening is a step of depositing the metal film coating to a desired film thickness in at least two stages, including a procedure of carrying out deposition a first time, stopping exhaust of a vacuum, injecting oxygen gas until a desired ~~presure~~ pressure is reached, exhausting the vacuum again and carrying out deposition a second time.

32. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the ~~step for~~ metal film coating step for coating the

reflecting surface and the spring operating part ~~rearwards from the hook-shaped section~~ is a vacuum deposition step using a rotating deposition jig to carry out deposition while rotating the light-propagating body, the rotating deposition jig having a structure where the light-propagating body is held so that the jig rotational axis becomes the same as or parallel to the center axis of the spring operating part rearward from the hook-shaped section.

33. (currently amended) ~~The method of manufacturing a light-propagating probe for a near-field microscope as disclosed in claim 1,~~ A method of manufacturing a light-propagating probe for a near-field microscope, the light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable of being displaced in a direction perpendicular to a sample surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating body;

a step of forming the light-propagating body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening;

a step of protecting the transparent opening with a resist material;

a metal film coating step for coating the spring operating part; and

a step of removing the resist material,

wherein the ~~step for~~ metal film coating step for coating the spring operating part ~~rearwards from the hook-shaped section~~ is a step of forming a metal film by vacuum deposition or sputtering from at least two directions around the center axis of the spring operating part ~~rearwards from the hook-shaped section~~, a light-propagating body fixing jig for film formation being ~~constructed so as to easily enable rotation~~ rotatable around the center axis of a straight part of the light-propagating body rearward of ~~rearwards from~~ the hook-shaped section.

34. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the metal film coating is any of aluminum, aluminum silicon alloy, gold or silver.

35. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the metal film coating is a two layer construction of any of silver/gold, chrome/gold, aluminum/gold, aluminum silicon alloy/gold.

36. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 34; ~~as disclosed in claim 29,~~ wherein the aluminum silicon alloy has a silicon component in a weight ratio of 0.5% to 2%.

37. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the film thickness of the metal film coating for forming the transparent opening is from 30 mm to 1,000 nm.

38. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 29; ~~as disclosed in claim 29,~~ wherein the vacuum deposition step has a film formation rate ~~is~~ of 5 nm per second or faster.

39. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 29; ~~as disclosed in claim 29,~~ wherein the vacuum deposition step has a film formation rate in a range of 10 nm to 100 nm per second.

40. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 29; ~~as disclosed in claim 29,~~ wherein the vacuum deposition step has a rotation rate for the rotating deposition jig in a range from 30 times per second to 1,000 times per second.

41. (currently amended) ~~The method of manufacturing a light-propagating probe for a near-field microscope as disclosed in claim 1,~~ A method of manufacturing a light-propagating probe for a near-field microscope, the light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable of being displaced in a direction perpendicular to a sample

surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating body;

a step of forming the light-propagating body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening;

a step of protecting the transparent opening with a resist material;

a metal film coating step for coating the spring operating part; and

a step of removing the resist material,

wherein the step of protecting the transparent opening with a resist material includes ~~a procedure for~~ dripping ~~trace amounts of~~ the resist material onto a flat plate, and inserting the transparent opening from ~~5 im to 200 im~~ 5 μm to 200 μm into a section of the resist material that is raised up by its own surface tension using a precision stage.

42. (currently amended) ~~The method of manufacturing a light-propagating probe for a near-field microscope as disclosed in claim 1,~~ A method of manufacturing a light-propagating probe for a near-field microscope, the

light-propagating probe having a light-propagating body that terminates at one end in a hook-shaped section that has a sharpened tip section at a free end thereof, the tip section being coated with a metal film coating except at the tip end thereof to form a transparent opening at the tip end for passing light, a portion of the light-propagating body that extends rearward of the hook-shaped section constituting a spring operating part for functioning as a cantilever capable of being displaced in a direction perpendicular to a sample surface, and the light-propagating body having a reflecting surface for carrying out optical position detection of the tip section, the method comprising:

a step of sharpening the light-propagating body;

a step of forming the light-propagating body in a hook-shape;

a step of forming the reflecting surface;

a metal film coating step for forming the transparent opening;

a step of protecting the transparent opening with a resist material;

a metal film coating step for coating the spring operating part; and

a step of removing the resist material,

wherein the step of protecting the transparent opening with a resist material ~~determines~~ includes inserting the transparent opening in a resist material and determining the insertion amount while performing observation using a microscope.

43. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 41; ~~as disclosed in claim 41,~~ wherein the resist material is a resin material mainly composed of any of butyl acetate, ethyl acetate, or nitrocellulose.

44. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1,~~ wherein the step for removing the resist material includes a procedure for ultrasonic cleaning using a cleaning solvent mainly composed of N-methyl-2-pyrrolidone.

45. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; ~~as disclosed in claim 1~~ further including ~~a procedure for~~ removing trace amounts of foreign matter that have become attached to the light-propagating body surface by ultrasonic cleaning using a cleaning solvent mainly composed of N-methyl-2-pyrrolidone,

executed before any or all of the step of sharpening the light-propagating probe body, the step of forming the light-propagating probe body in a hook shape, the step of forming the reflecting ~~surface;~~ surface, the metal film coating step for forming the transparent opening ~~section~~, the step of protecting the transparent opening ~~section~~ with a resist material, the ~~step for~~ metal film coating step for coating the reflecting surface and the ~~a~~ spring operating part ~~rearwards from the hook-shaped section~~, and the step of removing the resist material.

46. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 1; wherein during ~~as disclosed in claim 1, wherein, with respect to~~ the step of sharpening the light-propagating probe body, the step of forming the light-propagating probe body in a hook shape, the step of forming the reflecting surface, the metal film coating step for forming the transparent opening ~~section~~, the step of protecting the transparent opening ~~section~~ with a resist material, the ~~step for~~ metal film coating ~~a~~ step for coating the reflecting surface and the spring operating part ~~rearwards from the hook-shaped section~~, and the step of removing the resist material, handling of the light-propagating body is carried out ~~under~~ in an environment having antistatic means

for reducing buildup of static electricity ~~using anti-static means~~.

47. (currently amended) ~~The~~ A method of manufacturing a light-propagating probe for a near-field microscope according to claim 46; ~~as disclosed in claim 1,~~ wherein the antistatic means ~~using~~ comprises any one of an ionizer, an antistatic sheet, a metal case for light-propagating body storage, or humidity control.

48. (new) A method of manufacturing a light-propagating probe for a near-field scanning probe apparatus, comprising:

providing an elongate, solid light-propagating body having a resilient spring section which functions as a cantilever during use of the light-propagating probe;

forming a pointed tip section at an end section of the light-propagating body;

transforming the end section of the light-propagating body into a hook-shaped section that has the pointed tip section at a free end thereof and that has the other end thereof connected to the resilient spring section;

coating the pointed tip section of the hook-shaped section with a metal film coating to form a transparent opening that is free of the metal film coating at the tip end of the pointed tip section;

applying a resist material over the transparent opening;

forming a reflecting surface on the hook-shaped section for use in optically detecting the position of the pointed tip section during use of the light-propagating probe;

coating the remainder of the hook-shaped section, including the reflecting surface, and the resilient spring section with a metal film coating; and

thereafter removing the resist material from the transparent opening.

49. (new) A method according to claim 48; wherein the forming of a pointed tip section is carried out by applying spring tension to the light-propagating body while locally heating the tensioned light-propagating body to cause tension fracture thereof.

50. (new) A method according to claim 48; wherein the coating of the pointed tip section of the hook-shaped section with a metal film coating to form a transparent opening is carried out in two, separate metal-film deposition stages.

51. (new) A method according to claim 48; wherein the coating of the remainder of the hook-shaped section and the resilient spring section with a metal film coating is carried out by vacuum deposition or sputtering from at least two directions around the center axis of the resilient spring section.

52. (new) A method according to claim 48; wherein the applying of a resist material over the transparent opening comprises inserting the tip end of the pointed tip section having the transparent opening into the resist material and determining the amount of insertion of the tip end into the resist material through observation using a microscope.